

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA

**IN RE: LITHIUM ION BATTERIES  
ANTITRUST LITIGATION**

**Case No.: 13-MD-2420 YGR**

**This Order Relates to:**

**All Indirect Purchaser and Direct  
Purchaser Actions**

**ORDER DENYING WITHOUT PREJUDICE  
MOTIONS FOR CLASS CERTIFICATION;  
GRANTING IN PART AND DENYING IN PART  
MOTIONS TO STRIKE EXPERT REPORTS OR  
PORTIONS THEREOF**

**DKT. Nos. 1036, 1553, 1554, 1565, 1569,  
1582\_\_**

This antitrust action concerns two putative plaintiff classes, indirect and direct purchasers, who allege a multi-year, international price-fixing conspiracy among Japanese and Korean manufacturers of lithium ion battery cells, as well as their American subsidiaries.<sup>1</sup> The putative class representatives are denominated the Indirect Purchaser Plaintiffs (“IPPs”) and the Direct Purchaser Plaintiffs (“DPPs,” and collectively with the IPPs, “Plaintiffs”). Both putative classes have filed motions for class certification. (Dkt. Nos. 1036, 1582.) In connection with those motions, defendants have moved to strike or exclude certain expert reports. (Dkt. Nos. 1553, 1554, 1565, 1569.)

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<sup>1</sup> The IPP and DPP complaints each named as defendants the same eighteen corporate entities, which Plaintiffs have grouped identically into corporate families. Defendant GSYuasa was voluntarily dismissed from both complaints. (Dkt. No. 819.) A number of other defendants have entered into settlement agreements with the IPPs, DPPs, or both. The non-settling defendants are: for DPPs: LG Chem, Ltd. and LG Chem America, Inc. (collectively, “LG Chem”); Samsung SDI Co., Ltd., and Samsung SDI America, Inc. (collectively, “Samsung”); and Sanyo Electric Co., Ltd., and Sanyo North America Corp. (collectively, “Sanyo”); and for IPPs: Samsung; Sanyo; Toshiba; and Panasonic Corp. and Panasonic Corp. of North America (collectively, “Panasonic”).

1 The Court, having considered the admissible evidence, the papers in support and in  
2 opposition to the motion, the pleadings, and the oral arguments of the parties, and for the reasons  
3 stated herein, **ORDERS** as follows:

4 1. The IPP Plaintiffs' Motion for Class Certification (Dkt No. 1036) is **DENIED WITHOUT**  
5 **PREJUDICE** on the grounds that they have failed to establish typicality and their ability to prove  
6 antitrust impact on a class-wide basis;

7 2. The DPP Plaintiffs' Motion for Class Certification (Dkt. No. 1582 is **DENIED WITHOUT**  
8 **PREJUDICE** on the grounds that they have failed to establish typicality, adequacy, and their ability  
9 to prove antitrust impact on a class-wide basis;

10 3. The Motion of Panasonic and Sanyo to Strike the Proposed Expert Testimony of Dr.  
11 Edward E. Leamer (Dkt. No. 1553) is **GRANTED IN PART** on the grounds that his analyses rely on  
12 too narrow a range of data;

13 4. The Motion of Panasonic and Sanyo to Strike the Proposed Expert Testimony of Dr.  
14 Rosa M. Abrantes-Metz (Dkt. No. 1554) is **DENIED** on the grounds identified in the motion;

15 5. The Motion of Toshiba to Strike Certain Testimony of DPP Expert Dr. Roger Noll (Dkt.  
16 No. 1565) is **DENIED** on the grounds identified in the motion; and

17 6. The Motion of Toshiba to Strike Certain Proposed Testimony of DPP Expert Mr. James  
18 L. Kaschmitter (Dkt. No. 1569) is **GRANTED IN PART** as stated herein.

19 **I. BACKGROUND**

20 These actions arise out of an alleged price-fixing conspiracy for lithium ion battery (LIB)  
21 cells. The Court has previously outlined the allegations but summarizes the essential background,  
22 based on the allegations of the operative complaints, here.

23 LIBs serve as the predominant form of rechargeable batteries used in portable consumer  
24 electronics today, powering devices ranging from smartphones to laptop computers to cameras to  
25 cordless power tools. An LIB cell stores and releases electricity through chemical means. The cell  
26 consists of four basic components: a cathode, an anode, electrolyte, and separators. After  
27 manufacture, one or more cells are "packed" inside a casing, sometimes with protective circuitry.  
28

1 The casing makes the cell usable as a battery, or, in the case of multiple cells in a single casing, as a  
2 battery pack. Batteries and their cells exist in one of three general formats: (i) cylindrical, (ii)  
3 prismatic, and (iii) polymer.

4 In 1991, defendant Sony Corporation invented lithium ion batteries and dominated the  
5 market until 1999 and 2000, when Korean manufacturers LG and Samsung entered the scene. Both  
6 the DPPs and IPPs allege that, sometime in 2000, defendants here stopped competing and began  
7 sharing information through high-level executive meetings in Asia. These meetings began no later  
8 than March 2002 and continued in rough, semi-annual intervals for approximately two years.  
9 Beginning in 2004 and continuing through 2006, defendants are alleged to have met with increased  
10 frequency. Both complaints allege that, in this period, defendants determined that price  
11 competition would diminish the “health” of the entire lithium ion battery industry and agreed to  
12 refrain from such competition. Plaintiffs further allege that in February 2007, the price of cobalt,  
13 an important component for manufacture of lithium ion battery cells, increased sharply.  
14 Defendants allegedly agreed on a formula for collectively raising the price of lithium ion batteries  
15 in response, allegedly using the cobalt price increase as a pretext for this coordinated price increase.  
16 Thereafter, in mid-to-late 2008, despite a drop in cobalt prices and a global economic downturn and  
17 reduction in demand for lithium ion batteries, defendants allegedly collaborated on strategies for  
18 stabilizing and maintaining artificially high prices. Plaintiffs allege that from 2009 to 2011,  
19 defendants continued to exchange sensitive, non-public information to coordinate prices.<sup>2</sup>  
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22 <sup>2</sup> On September 20, 2013, in a related criminal proceeding, defendant Sanyo Electric Co.,  
23 Ltd. (“Sanyo Electric”) entered a guilty plea to one count of conspiring to fix prices of cylindrical  
24 lithium ion battery packs used in notebook computers, from about April 2007 to about September  
25 2007, in violation of Section 1 of the Sherman Act. (Case No. 13-cr-472, Dkt. No. 32.) Pursuant to  
26 its plea agreement, Sanyo Electric agreed to pay a criminal fine of \$10,731,000.00, but no  
27 restitution. On October 10, 2013, defendant LG Chem, Ltd entered a guilty plea to one count of  
28 conspiring to fix prices of cylindrical lithium ion battery packs used in notebook computers, from  
about April 2007 to about September 2007 in violation of Section 1 of the Sherman Act. (Case No.  
13-cr-473, Dkt. No. 28.) LG Chem, Ltd. agreed to pay a criminal fine of \$1,056,000.00.  
Restitution in both matters was deferred to the civil litigation.

## II. APPLICABLE STANDARDS

### A. Class Certification

Federal Rule of Civil Procedure 23, which governs class certification, has two distinct sets of requirements that plaintiffs must meet before the Court may certify a class. Plaintiffs must meet all of the requirements of Rule 23(a) and must satisfy at least one of the prongs of Rule 23(b), depending upon the nature of the class they seek to certify. *See also Shady Grove Orthopedic Assocs., P.A. v. Allstate Ins. Co.*, 559 U.S. 393, 394 (2010) (setting forth requirements of Rule 23). Under Rule 23(a), the Court may certify a class only where:

- (1) the class is so numerous that joinder of all members is impracticable;
- (2) there are questions of law or fact common to the class;
- (3) the claims or defenses of the representative parties are typical of the claims or defenses of the class; and
- (4) the representative parties will fairly and adequately protect the interests of the class.

Fed. R. Civ. P. 23(a). Courts refer to these four requirements as “numerosity, commonality, typicality[,] and adequacy of representation.” *Mazza v. Am. Honda Motor Co.*, 666 F.3d 581, 588 (9th Cir. 2012).<sup>3</sup>

While some inquiry into the substance of a case may be necessary to determine whether these requirements are satisfied, the court must not advance a decision on the merits to the class certification stage. As the United States Supreme Court has stated:

Although we have cautioned that a court’s class-certification analysis must be “rigorous” and may “entail some overlap with the merits of the plaintiff’s underlying claim,” Rule 23 grants courts no license to engage in free-ranging merits inquiries at the certification stage. Merits questions may be considered to the extent — but only to the extent — that they are relevant to determining whether the Rule 23 prerequisites for class certification are satisfied.

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<sup>3</sup> The Ninth Circuit found that no separate “administrative feasibility” or ascertainability requirement exists in Rule 23. *Briseno v. ConAgra Foods, Inc.*, 844 F.3d 1121, 1124 n.4 (9th Cir. 2017). To the extent concerns arise about the identification of class members, those concerns are subsumed in Rule 23’s superiority analysis, which considers whether the class is defined clearly and with objective criteria, and is manageable. *Id.* at 1127 (“Rule 23(b)(3) already contains a specific, enumerated mechanism to achieve that goal [of mitigating burdens of trying a class action]: the manageability criterion of the superiority requirement.”).

1 *Amgen Inc. v. Connecticut Ret. Plans & Trust Funds*, 133 S. Ct. 1184, 1194-95 (2013). Within the  
2 framework of Rule 23, the Court ultimately has broad discretion over whether to certify a class.  
3 *Zinser v. Accufix Research Inst., Inc.*, 253 F.3d 1180, 1186 (9th Cir.) *opinion amended on denial of*  
4 *reh’g*, 273 F.3d 1266 (9th Cir. 2001).

5 Rule 23(a)(1)’s numerosity requirement means that a class be so numerous that joinder of  
6 all class members is “impracticable.” Fed. R. Civ. P. 23(a)(1). Where the precise size of the class is  
7 unknown, but ““general knowledge and common sense indicate that it is large, the numerosity  
8 requirement is satisfied.”” *In re Static Random Access Memory (SRAM) Antitrust Litig.*, No. C 07-  
9 01819 CW, 2008 WL 4447592, at \*7 (N.D. Cal., Sept. 29, 2008) (quoting 1 Alba Conte & Herbert  
10 B. Newberg, *Newberg on Class Actions* § 3:3 (4th ed. 2002)).

11 Rule 23(a)(2) requires the party seeking certification to show that “there are questions of  
12 law or fact common to the class.” Fed. R. Civ. P. 23(a)(2). To satisfy this requirement, the  
13 common question “must be of such a nature that it is capable of class[-]wide resolution – which  
14 means that the determination of its truth or falsity will resolve an issue that is central to the validity  
15 of each of the claims in one stroke.” *Dukes*, 564 U.S. at 350. “[F]or purposes of Rule 23(a)(2),  
16 even a single common question will do.” *Id.* at 359. “[T]he very nature of a conspiracy antitrust  
17 action compels a finding that common questions of law and fact exist.” *In re Dynamic Random*  
18 *Access Memory (DRAM) Antitrust Litig.*, No. M 02-1486 PJH, 2006 WL 1530166, at \*3 (N.D. Cal.  
19 June 5, 2006); *see also In re Online DVD Rental Antitrust Litig.*, No. 09-2029 PJH, 2010 WL  
20 5396064, at \*3 (N.D. Cal. Dec. 23, 2010) (“*Online DVD*”).

21 Typicality, as defined in Rule 23(a)(3), requires that the “claims or defenses of the  
22 representative parties are typical of the claims or defenses of the class.” Fed. R. Civ. P. 23(a)(3).  
23 That is, the named plaintiffs must “suffer the same injury as the class members.” *Wal-Mart Stores,*  
24 *Inc. v. Dukes*, 564 U.S. 338, 348 (2011). “The purpose of the typicality requirement is to assure  
25 that the interest of the named representative aligns with the interests of the class.” *Wolin v. Jaguar*  
26 *Land Rover N. Am., LLC*, 617 F.3d 1168, 1175 (9th Cir. 2010) (*quoting Hanon v. Dataproducts*  
27 *Corp.*, 976 F.2d 497, 508 (9th Cir.1992)). “The test of typicality is whether other members have  
28 the same or similar injury, whether the action is based on conduct which is not unique to the named

1 plaintiffs, and whether other class members have been injured by the same course of conduct.” *Id.*  
2 (internal quotation marks omitted). Class representatives’ claims “need not be substantially  
3 identical” to those of absent class members, as “[s]ome degree of individuality is to be expected in  
4 all cases.” *Cifuentes v. Red Robin Int’l, Inc.*, No. C-11-5635-EMC, 2012 WL 693930, at \*5 (N.D.  
5 Cal. Mar. 1, 2012).

6 Adequacy of representation under Rule 23(a)(4) requires the Court to consider: “(1)  
7 [whether] the representative plaintiffs and their counsel have any conflicts of interest with other  
8 class members, and (2) will the representative plaintiffs and their counsel prosecute the action  
9 vigorously on behalf of the class?” *Staton v. Boeing Co.*, 327 F.3d 938, 957 (9th Cir. 2003).

10 Once the threshold requirements for certification are met, a plaintiff must establish that the  
11 class is appropriate for certification under one of the provisions in Rule 23(b). Here, the plaintiff  
12 classes seek certification under Rule 23(b)(3). Rule 23(b)(3) requires plaintiffs to establish “that  
13 the questions of law or fact common to class members *predominate* over any questions affecting  
14 only individual members, and that a class action is *superior* to other available methods for fairly  
15 and efficiently adjudicating the controversy.” Fed. R. Civ. P. 23(b)(3) (emphasis supplied).  
16 Predominance “tests whether proposed classes are sufficiently cohesive to warrant adjudication by  
17 representation,” and is similar to, but more demanding than the commonality analysis under Rule  
18 23(a). *Amchem Prod., Inc. v. Windsor*, 521 U.S. 591, 623 (1997). Superiority, on the other hand,  
19 tests whether the class action mechanism would be preferable to individual actions or would  
20 “unnecessarily burden the judiciary . . . [and] prove uneconomic for potential plaintiffs.” *Hanlon*,  
21 150 F.3d at 1023. Courts consider such factors as: the interest of members of the class in  
22 controlling their individual claims or defenses; the extent of any litigation already commenced by  
23 or against the class members; the desirability of concentrating the litigation in a particular forum;  
24 and the difficulties likely to be encountered in management of the class action, such as difficulty  
25 identifying who is bound by the judgment or individualized issues among the class members.  
26 *Amchem*, 521 U.S. at 615-16.

**B. Standards Applicable to Expert Testimony**

Defendants have moved to strike or exclude certain expert reports, or portions thereof, offered in support of the motions for class certification. Defendants rely on Rules 104(a) and 702 of the Federal Rules of Evidence, as well as the principles set forth in *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993).

Federal Rule of Evidence 702 controls expert witness testimony. The admissibility of an expert opinion requires a three-step analysis:

The admissibility of expert testimony, Rule 702, requires that the trial court make several preliminary determinations, Rule 104(a). [1] The trial court must decide whether the witness called is properly qualified to give the testimony sought. A witness may be qualified as an expert on the basis of either knowledge, skill, experience, training, or education or a combination thereof, Rule 702. [2] The trial court must further determine that the testimony of the expert witness, in the form of an opinion or otherwise, will assist the trier of fact, i.e., be helpful, to understand the evidence or to determine a fact in issue, Rule 702(a). [3] Finally the trial court must determine that as actually applied in the matter at hand, Rule 702(d), to facts, data, or opinions sufficiently established to exist, Rule 702(b), including facts, data, or opinions reasonably relied upon under Rule 703, sufficient assurances of trustworthiness are present that the expert witness' explanative theory produced a correct result to warrant jury acceptance, i.e., a product of reliable principles and methods, Rule 702(c).

Michael H. Graham, 5 HANDBOOK OF FED. EVID. § 702:1 (7th ed.) (footnotes omitted). Under Rule 703, expert opinion may be based on three possible sources: firsthand knowledge; admitted evidence; and facts or data not otherwise admitted, if they are the kind of information on which experts in the particular field reasonably would rely in forming opinions on the subject. *See* 29 FED. PRAC. & PROC. EVID. (2d ed.) §6274. In the analysis under Rule 701 and *Daubert*, the court is tasked with determining that the opinion has the objective earmarks of scientific or technical reliability, not making a conclusive determination about whether the opinions ultimately are reliable or correct. *Id.* Thus, for instance, the Ninth Circuit has held that the district courts should, in the first instance, determine whether statistics offered are sufficiently probative of the ultimate fact in issue, regardless of the statistical significance levels associated with them. *See Contreras v. City of Los Angeles*, 656 F.2d 1267, 1273 (9th Cir. 1981) (citing *Dothard v. Rawlinson*, 433 U.S.

321, 338 (Rehnquist, J., concurring)); *see also In re High-Tech Employee Antitrust Litig.*, No. 11-CV-02509-LHK, 2014 WL 1351040, at \*15 (N.D. Cal. Apr. 4, 2014) (fact that variables were not statistically significant at the 1%, 5%, and 10% levels goes to the weight, not the admissibility of expert's model, even if those are the "conventional" levels statisticians typically use); *Kadas v. MCI Systemhouse Corp.*, 255 F.3d 359, 362 (7th Cir.2001) (use of five percent test is arbitrary and does not govern admissibility).

An expert is generally not permitted to opine on an ultimate issue of fact except in limited circumstances, since such opinions may "invade the province of" the jury. *See Nationwide Transport Finance v. Cass Information Systems, Inc.*, 523 F.3d 1051, 1060 (9th Cir. 2008) ("evidence that merely tells the jury what result to reach is not sufficiently helpful to the trier of fact to be admissible"). Nor may an expert opine on questions which are matters of law for the court. *See id.* at 1058 (deciding questions of law is the exclusive province of the trial judge); *McHugh v. United Service Auto Assoc.*, 164 F.3d 451, 454 (9th Cir. 1999) (expert testimony cannot be used to provide the legal meaning or interpretation of insurance policy terms); *Aguilar v. Int'l Longshoremen's Union Local No. 10*, 966 F.2d 443, 447 (9th Cir. 1992) (expert opinion that reliance was reasonable and foreseeable were inappropriate subjects for expert testimony). However, as a practical matter, experts may express opinions based upon hypotheticals and information which would otherwise be inadmissible hearsay on its own. Additionally, experts can rely upon the opinions of other experts. *See DataQuill Ltd. v. High Tech Computer Corp.*, 887 F.Supp.2d 999, 1026 (S.D. Cal. 2011) ("It is routine and proper for a damages expert in a technical patent case to rely on a technical expert for background."); *United States v. 1,014.16 Acres of Land, More or Less, Situated in Vernon Cnty., State of Mo.*, 558 F. Supp. 1238, 1242 (W.D. Mo. 1983) *aff'd*, 739 F.2d 1371 (8th Cir. 1984) (reasonable to expect that experts will rely on the opinion of experts in other fields as background material, as permitted by FRE 703); *Interwoven, Inc. v. Vertical Computer Sys.*, CV 10-04645 RS, 2013 WL 3786633, at \*7 (N.D. Cal. July 18, 2013) ("Experts are, however, permitted to rely on hearsay evidence in coming to their conclusions, so long as an expert in the field would reasonably rely on that information").



1 Thus, while expert testimony cannot be used as an end-run around the rules of evidence to  
2 admit the underlying evidence, experts in a particular field routinely opine based upon a set of  
3 factual assumptions given to them. They need not be experts in all fields. Nor must they have  
4 personal knowledge of the factual background in the case. At trial, the proponent of the expert  
5 bears the burden of persuading the jury that the expert's opinion is, in fact, based upon a reasonable  
6 and convincing set of assumptions, or that the underlying facts upon which the expert's opinion is  
7 based exist. Thus, a jury is routinely charged:

8 [Expert] [o]pinion testimony should be judged just like any other testimony.  
9 You may accept it or reject it, and give it as much weight as you think it  
10 deserves, considering the witness's education and experience, the reasons given  
for the opinion, and all the other evidence in the case.

11 Ninth Circuit Manual of Model Civil Jury Instructions, 2.11. And, at trial, an expert generally will  
12 not be called to opine until the evidence underlying the opinion has actually been admitted.

13 Moreover, at the class certification stage, the Court does not make an ultimate determination  
14 of the admissibility of an expert's report for purposes of a dispositive motion or trial. *Dukes v.*  
15 *Wal-Mart Stores, Inc. (Dukes II)*, 603 F.3d 571, 602 n. 22 (9th Cir. 2010) *rev'd on other grounds*  
16 *by* 564 U.S. 338 (2011); *Millenkamp v. Davisco Foods Int'l, Inc.*, 562 F.3d 971, 979 (9th Cir.  
17 2009). Rather, the court considers only whether the expert evidence is "useful in evaluating  
18 whether class certification requirements have been met." *Tait v. BSH Home Appliances Corp.*, 289  
19 F.R.D. 466, 495–96 (C.D. Cal. 2012) (citing *Ellis v. Costco Wholesale Corp.*, 657 F.3d 970, 982  
20 (9th Cir. 2011)); *see also Rai v. Santa Clara Valley Trans.*, 308 F.R.D. 245 (N.D. Cal. 2015). At  
21 class certification, "the relevant inquiry is a tailored *Daubert* analysis which scrutinizes the  
22 reliability of the expert testimony in light of the criteria for class certification and the current state  
23 of the evidence." *Rai*, 308 F.R.D. at 264.

### 24 **III. IPP MOTION FOR CLASS CERTIFICATION**

25 IPPs seek to certify a Rule 23(b)(3) class defined as follows:

26 All persons and entities who, as residents of the United States and during the period  
27 from January 1, 2000 through May 31, 2011, indirectly purchased new for their own  
28 use and not for resale one of the following products which contained a lithium-ion  
cylindrical battery manufactured by one or more defendants or their co-conspirators:  
(i) a portable computer; (ii) a power tool; (iii) a camcorder; or (iv) a replacement

1 battery for any of these products. Excluded from the class are any purchases of  
2 Panasonic-branded computers. Also excluded from the class are any federal, state,  
3 or local governmental entities, any judicial officers presiding over this action,  
4 members of their immediate families and judicial staffs, and any juror  
5 assigned to this action.

6 All non-federal and non-state governmental entities in California that, during the  
7 period from January 1, 2000 through May 31, 2011, indirectly purchased new for  
8 their own use and not for resale one of the following products which contained a  
9 lithium-ion cylindrical battery manufactured by one or more defendants or their co-  
10 conspirators: (i) a portable computer; (ii) a power tool; (iii) a camcorder; or (iv) a  
11 replacement battery for any of these products. Excluded from the class are any  
12 purchases of Panasonic-branded computers. Also excluded from the class are any  
13 federal, state, or local governmental entities, any judicial officers presiding over this  
14 action, members of their immediate families and judicial staffs, and any juror  
15 assigned to this action.

16 The requirements of numerosity, adequacy, and Rule 23(a) commonality are met here, and  
17 essentially non-controversial. The class as defined would include hundreds of thousands of  
18 purchasers throughout the United States. There are at least some questions of law and fact common  
19 to the class members, including the existence of the alleged price-fixing conspiracy and the identity  
20 of the conspirators. The proposed representatives do not have conflicts of interest with other class  
21 members and proposed class counsel are qualified.

22 The focus of the parties' arguments on the IPP class certification motion is whether: (1) the  
23 class representatives are sufficiently typical of the class they seek to represent; and (2) common  
24 questions predominate such that class certification is appropriate, including whether California law  
25 can be applied to the entire class.<sup>4</sup>

#### 26 **A. Typicality**

27 Defendants challenge IPPs' typicality showing on two grounds: (i) lack of evidence of class  
28 membership; and (ii) lack of similarity of purchasing power of the putative class representatives in  
relation to other business and institutional class members. First, defendants contend that IPPs have

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<sup>4</sup> Defendants also argue that the class is not sufficiently ascertainable. However, in light of the Ninth Circuit's recent *Briseno* decision, the arguments are more appropriately part of the Court's analysis of the typicality of the class representatives' claims, as well as the superiority of the class mechanism and concomitant questions of manageability of the class action.

1 failed to put forward evidence from the class representatives<sup>5</sup> to demonstrate that their claims are  
2 typical. Defendants argue that, without documentation supporting their purchase of a product  
3 within the class definition, the class representatives cannot determine whether they are part of the  
4 class and may be subject to unique defenses. Defendants contend that, even if class members can  
5 document that they purchased a product, they can provide evidence that the product they purchased  
6 contained a cylindrical lithium-ion battery. Rule 23 does not require documentation of a purchase  
7 in order to be part of the class, and each class representative has offered other evidence of a  
8 purchase. IPPs offer evidence that the available information will allow a determination that a  
9 putative class members' purchase falls within the class definition, including: market share;  
10 markings on finished products, packs, and cells; and defendants' own data tracing cells to finished  
11 products in the context of product recalls. (*See* Declaration of Steven N. Williams ISO Class Cert.,  
12 Dkt. No. 1036-4, Exh. 199-204.) IPPs' proffer, at this stage, is sufficient.

13       Next, defendants argue that the proposed class representatives are not typical because they  
14 are individuals who purchased small numbers of LIB products from resellers at non-negotiable  
15 prices, but the IPP class is comprised substantially of business entities and other institutional end-  
16 users who purchased products in bulk and had the power to negotiate pricing. For this argument  
17 defendants rely on two cases: *In re Facebook, Inc., PPC Advert. Litig.*, 282 F.R.D. 446, 454 (N.D.  
18 Cal. 2012), *aff'd sub nom. Fox Test Prep v. Facebook, Inc.*, 588 F. App'x 733 (9th Cir. 2014)  
19 ("*Facebook Ads*") and *Soto v. Castlerock Farming & Transp., Inc.*, No. 1:09-CV-00701-AWI, 2013  
20 WL 6844377, at \*20 (E.D. Cal. Dec. 23, 2013), *report and recommendation adopted*, No. 1:09-  
21 CV-00701-AWI, 2014 WL 200706 (E.D. Cal. Jan. 16, 2014). The court in *Facebook Ads* denied  
22 certification, but did not do so based upon typicality. To the contrary, the court there found that the

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23       <sup>5</sup> Proposed class representatives of the nationwide IPP class are: Christopher Hunt, Shawn  
24 Sellers, Kristina Yee, Piya Robert Rojanasathit, Richard E. Johns, Steve Bugee, Tom Pham,  
25 Hathaway & Associates, Keith Uehara, Bradley Seldin, Patrick McGuinness, John Kopp, Joseph  
26 Pankow, Drew Fennelly, Jason Ames, William Cabral, Donna Shawn, Robert L. McGranahan,  
27 David Beson, Murray "Kim" Billingsly, Joseph O'Daniel, Cindy Booze, Matthew Ence, David  
28 Tolchin, Matt Bryant, Valentina Juncai, Kathleen Alice Tawney, Sheri Harmon, Christopher  
Bessette, Caleb Batey, David Reymann, Gail Murphy, Linda Lincoln, Bradley Van Patten, and  
class representatives of the governmental subclass are City of Palo Alto and City of Richmond.

1 putative class representatives' claims arose out of the same allegations as the absent class members  
2 and typicality was met. *Facebook Ads*, 282 F.R.D. at 453-54. Certification ultimately was denied  
3 on a failure to establish plaintiffs were adequate representatives, because they did not offer  
4 evidence that they suffered any concrete injury from the wrongdoing alleged. *Id.* at 454. As part of  
5 the adequacy analysis, the court also noted that plaintiffs' interests were different from others in the  
6 class, since they contracted with Facebook under different terms and using different advertising  
7 channels from the direct advertisers in the putative class. *Id.* In *Soto*, plaintiff and putative class  
8 members were employed by the same defendant and worked under the same policies and  
9 procedures, but other putative class members offered differing accounts of whether the employer  
10 required them to work off-the-clock without pay to complete certain tasks. *Soto*, 2013 WL  
11 6844377, at \*20. The *Soto* court found that plaintiff had not shown his claims were typical of the  
12 members of the proposed class based on these conflicting declarations. *Id.*

13 Defendants' authorities do not persuade. Here, plaintiffs' contention is that the class was  
14 harmed by the price-fixing conspiracy, which is common to all purchasers in the class. Defendants  
15 provide no evidence that certain class members were not harmed, or harmed in some materially  
16 different way. Instead, defendants offer mere speculation and argument that the price-fixing  
17 scheme would have impacted bulk purchasers differently than individual purchasers. As the district  
18 court found in the *In re SRAM* litigation, so, too, does this Court find that the overarching price-  
19 fixing scheme is the gravamen of the claim, regardless of the type of product purchased, the  
20 quantity, the purchasing procedures, or the price paid. *In re Static Random Access memory (SRAM)*  
21 *Antitrust Litig.*, 264 F.R.D. 603, 609 (N.D. Cal. 2009). While the Court has some lingering  
22 questions about whether individual purchasers actually were injured in the same way and to the  
23 same degree as bulk purchasers, the evidence at this stage indicates that all class members have the  
24 same or similar injury based on the same conduct. *See Hanon v. Dataproducts Corp.*, 976 F.2d  
25 497, 508 (9th Cir. 1992). In the absence of evidence establishing material differences in the  
26 liability and impact as between different class members, the Court finds the present showing  
27 sufficient to meet the typicality requirement.

**B. Predominance of Common Questions**

The analysis of whether questions of law or fact common to class members predominate begins with the elements of the underlying cause of action. *Erica P. John Fund, Inc. v. Halliburton Co.*, 563 U.S. 804 (2011). For antitrust price-fixing cases, the elements are: (1) a conspiracy to fix prices in violation of the antitrust laws; (2) an antitrust injury – *i.e.*, the impact of the defendants’ unlawful activity; and (3) damages caused by the antitrust violations. *In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 583, 600 (N.D. Cal. 2010), *amended in part*, No. M 07-1827 SI, 2011 WL 3268649 (N.D. Cal. July 28, 2011) (citing *In re Static Random Access memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 610-11 (N.D. Cal. 2009)).

The crux of defendants’ opposition to class certification focuses on their argument that IPPs have failed to offer reliable methods to show class-wide impact or class-wide damages.<sup>6</sup> IPPs counter that the reports of Dr. Rosa Abrantes-Metz and Dr. Edward Leamer are sufficient to establish: (i) antitrust impact on a class-wide basis; (ii) an overcharge passed through to indirect purchasers; and (iii) a common method for calculating damages. Dr. Abrantes-Metz’s report offers opinions, based on qualitative and quantitative data, to show the alleged collusion had a cohesive effect across defendants’ prices and caused a market-wide impact. Dr. Leamer’s report consists of four opinions: a correlation study between cells and packs and an overcharge analysis, which combine to show class-wide impact; a pass-through analysis to establish liability to indirect purchasers; and a damages model.

**I. Common Proof of Antitrust Impact**

Under “the prevailing view, price-fixing affects all market participants, creating an inference of class-wide impact even when prices are individually negotiated.” *Dow Chem. Co. v. Seegott Holdings, Inc.*, (*In re Urethane Antitrust Litig.*), 768 F.3d 1245, 1254 (10th Cir. 2014). However, such an inference must still be supported by evidence of class-wide impact. “[O]n a

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<sup>6</sup> Defendants essentially agree that the evidence of a conspiracy to fix prices would apply class-wide, based on the guilty pleas of defendants Sanyo and LG Chem, as well as evidence obtained by IPPs in the course of discovery regarding meetings and exchange of information by defendants. (Williams Decl., Exh. 1, Exh. 4.)

1 motion for class certification, the Court only evaluates whether the method by which plaintiffs  
2 propose to prove class-wide impact could prove such impact, not whether plaintiffs in fact can  
3 prove class-wide impact.” *LCD I*, 267 F.R.D at 313. Stated another way, all that is required is that  
4 plaintiffs present a ““plausible methodology to demonstrate that antitrust injury can be proven on a  
5 class-wide basis.”” *Id.* at 311; *see also In re Online DVD Rental Antitrust Litig.*, No. M 09-2029  
6 PJH, 2010 WL 5396064, at \*10 (N.D. Cal. Dec. 23, 2010), *aff’d sub nom. In re Online DVD-Rental*  
7 *Antitrust Litig.*, 779 F.3d 934 (9th Cir. 2015) (objections ultimately directed to the merits of  
8 plaintiffs’ ability to prove impact did not establish that plaintiffs’ methodology would require  
9 individualized evidence, and therefore did not bar certification).

10 In a class of indirect purchasers, the issue of class-wide impact is complicated by the need  
11 to demonstrate a method for showing whether, and to what extent, the overcharge “impact” is  
12 passed on to each of the indirect purchasers in the distribution chain. *In re Static Random Access*  
13 *memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 613 (N.D. Cal. 2009). “Each divergent factor—  
14 customer size, type, procurement channel, product, distribution step—is a factor that increases the  
15 likelihood that proof of pass-through can only be shown with resort to individualized proof.”  
16 *California v. Infineon Technologies AG*, No. C 06-4333 PJH, 2008 WL 4155665, at \*11 (N.D. Cal.  
17 Sept. 5, 2008). There are five classes of factors that should be considered in evaluating whether  
18 generalized evidence can be used to determine the rate of pass-through. These include temporal  
19 relationships, pricing practices, directness of affected costs, supply and demand. *SRAM*, 264  
20 F.R.D. at 613.

21 IPPs offer two expert reports detailing statistical analyses they contend will demonstrate  
22 that the alleged LIB price-fixing scheme here had a class-wide impact and that overcharges were  
23 passed through to the indirect purchasers.

24 *a. Dr. Abrantes-Metz*

25 Dr. Abrantes-Metz offers an opinion, based upon information about the LIB industry, to  
26 show that the impact of a conspiracy would be class-wide. She opines that cylindrical batteries  
27 were highly standardized and commodified, that defendants controlled some 93 percent of the  
28 market at the time, and that barriers to entry into the market prevented the entry of any significant

1 new competitors during that time. Abrantes-Metz also provides a statistical analysis of price  
2 changes using a regression model to show that battery cell prices were more similar across  
3 defendants during the class period than before or after and that, even when controlling for the effect  
4 of other forces on the prices of different battery models.

5 Defendants critique Dr. Abrantes-Metz's report on several grounds, namely that (1) she uses  
6 screening methods not generally accepted by other economists and which cannot be tested; (2) her  
7 opinions invade the province of the factfinder and are not the proper subject of expert testimony;  
8 and (3) she uses non-representative data in her quantitative analyses. The Court finds as follows:

9 First, while Dr. Abrantes-Metz has apparently done work in the area of screening  
10 techniques, she is not relying on such techniques in reaching her qualitative opinions. Instead, she  
11 is offering an opinion based upon her expertise in forensic investigation of the categories of facts  
12 that indicate or facilitate collusive behavior among market competitors.

13 Second, while opinions about the intent or motive of parties are not a proper role for expert  
14 testimony, this expert's opinions about features of defendants' contacts that are indicative of  
15 collusion and the features of the cylindrical LIB market that make it susceptible to successful  
16 coordination, are proper for the purposes of class certification.<sup>7</sup> *Cf. In re Processed Egg Prod.*  
17 *Antitrust Litig.*, 81 F. Supp. 3d 412, 423 (E.D. Pa. 2015) (expert's opinion "tying the evidence of  
18 the case to the economic theory of collusion" by explaining factors conducive to collusion present  
19 in the record was admissible); *U.S. Info. Sys., Inc. v. Int'l Bhd. of Elec. Workers Local Union No. 3*,  
20 *AFL-CIO*, 313 F. Supp. 2d 213, 236 (S.D.N.Y. 2004) (expert properly opined on the market and  
21 features thereof by interpreting evidence in the case based on his knowledge as an economist).  
22 Given Dr. Abrantes-Metz's qualifications, she appears capable of providing the jury with tools they  
23 can use to aid their fact-finding obligations, rather than usurping the jury's fact-finding role.

24 Third, as to the data selection argument, Dr. Abrantes-Metz provided an opinion on all of  
25 the useable data provided in discovery at that time. Whether this will be sufficient at the time of  
26

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27 <sup>7</sup> This ruling is without prejudice to further motion practice on the manner in which IPPs  
28 seek to admit the opinions without invading the jury's province.

1 trial or summary judgment remains an open question, but it suffices to support her opinions in  
2 support of class-wide impact at this stage.

3 Thus, defendants' motion to strike Dr. Abrantes-Metz's report from consideration in  
4 connection with class certification is **DENIED**. It is evidence the Court considers for purposes of  
5 determining whether IPPs can meet their burden to establish impact on a common basis.

6 *b. Dr. Leamer*

7 Dr. Leamer first offers opinions concerning the impact of the conspiracy on LIB prices. Dr.  
8 Leamer uses a multi-variable reduced form regression analysis to estimate the impact of the  
9 conspiracy on the prices of cylindrical LIB cells. The regression controls for a number of variables  
10 including changes in the price of cobalt, portable computer pricing, housing starts, and industrial  
11 production. Dr. Leamer then estimates, on a month-by-month basis for the proposed class period,  
12 the relationship between the variables and the cost of the cells, as well as the co-movements of  
13 prices paid by different customers. Dr. Leamer performed regression analyses based on monthly  
14 weighted average prices of individual manufacturer cell codes – regression analyses for each  
15 individual manufacturer cell part number (or product code) in the dataset, totaling around 680  
16 separate regressions. The majority of the estimates showed price coordination, which Dr. Leamer  
17 opines is strong evidence of impact on cell and pack price by the alleged conspiracy. He also  
18 analyzed movement of prices paid by different customers, comparing each customer/purchaser  
19 against all others.

20 Dr. Leamer's analysis shows a statistically significant impact on actual prices of cells and  
21 packs throughout the alleged conspiracy period. Even in those parts of the alleged conspiracy  
22 period where the difference in the actual and but-for prices is diminished (*i.e.*, outside the cobalt  
23 period), Dr. Leamer's regressions still indicate a statistically significant difference, indicating  
24 impact of the alleged conspiracy on LIB prices.<sup>8</sup>

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25  
26  
27 <sup>8</sup> Dr. Guerin-Calvert's chart showing the confidence intervals of but-for data overlapping  
28 the actual data was calculated incorrectly, according to Dr. Leamer's Reply Report at ¶¶ 17 and 18.  
(*cont'd . . .*)



Dr. Leamer also conducted analyses to show that the price overcharges were passed through to the indirect purchasers in the class. Dr. Leamer used regression analyses to estimate 32 pass-through rates for nineteen companies at different points on the distribution chain for lithium-ion batteries (*See* Leamer Decl. I, Fig. 46)—seven original equipment manufacturers (“OEMs”), three distributors, and nine retailers (two with data on power tools, one with data on cameras, one with data only on notebook computers, and five with data on one or more products in the class definition). On reply, based on additional information provided, Dr. Leamer ran more regressions, for a total of ten OEMs, three distributors, and 19 retailers. (Leamer II at Fig 18, 19.)

Defendants attack Dr. Leamer’s report on five grounds. First, they argue that Dr. Leamer espouses views about confidence levels that are not accepted within the relevant expert community. However, defendants fail to acknowledge that all or nearly all of Dr. Leamer’s regression analyses result in estimates statistically significant at either the 90% or 95% confidence levels, both widely accepted as valid for evidentiary purposes. (*See* Leamer Decl. I, at ¶¶ 11-15, 77-91, Fig. 34-36.)<sup>9</sup> Dr. Leamer’s conspiracy indicator coefficient had significance at the 90% level for cells and 99% level for packs. His pass-through analysis meets the 95% confidence level in all but one instance, and the 90% level for all instances. Moreover, courts generally have found that a statistical confidence level is more a matter of weight than admissibility. *See, e.g., In re High-Tech Employee Antitrust Litig.*, No. 11-CV-02509-LHK, 2014 WL 1351040, at \*15 (N.D. Cal. Apr. 4, 2014) (“the

( . . . *cont’d*)

Dr. Leamer opines that, if one calculates the confidence intervals by accepted methods, none of the 90% confidence intervals overlap the actuals. Ultimately, this may present a battle of the experts, but the dispute need not be resolved at this stage of the litigation. At class certification, it suggests that these are determinations that can be made on a class-wide basis.

<sup>9</sup> In addition, multi-variable regression is the sort of analysis most routinely accepted as the appropriate tool for estimating impact and damages in antitrust cases. *See, e.g. In re Steel Antitrust Litig.*, No. 08 C 5214, 2015 WL 5304629, at \*11 (N.D. Ill. Sept. 9, 2015) (multiple regression analysis is “generally considered an appropriate tool for estimating antitrust damages on a class-wide basis,” citing multiple authorities); *In re Optical Disk Drive Antitrust Litig.*, 303 F.R.D. 311, 321 (N.D. Cal. 2014) (regression analyses may be employed to establish class-wide impact in an antitrust case).

fact that these two variables are not statistically significant at the 1%, 5%, and 10% levels goes to the weight, not the admissibility” of the statistical model).

Second, defendants argue that aggregate and averaged data masks important differences in the pass-through analysis. However, the Court finds that these differences go to the weight of Dr. Leamer’s opinion rather than its admissibility. As the court in *SRAM* noted, the pass-through question is not about tracing a specific price increase through the distribution chain to a specific class member, but rather how the anti-competitive conduct affected the prices paid by the consumers. *SRAM*, 264 F.R.D. at 614 (citing *Gordon v. Microsoft Corp.*, No. MC 00-5994, 2003 WL 23105550, at \*3 (Minn. Dist. Ct. Dec. 15, 2003)). Determination of the difference between prices paid and prices that would have been paid “but-for” the unlawful conduct is necessarily hypothetical. *Id.* “Thus, average pass through rates appear reasonable and even necessary to prove damages.” *Id.* “Neither a variety of prices nor negotiated prices is an impediment to class certification if it appears that plaintiffs may be able to prove at trial that, as here, the price range was affected generally.” *In re NASDAQ Mkt.-Makers Antitrust Litig.*, 169 F.R.D. 493, 523 (S.D.N.Y. 1996). “Even if it could be shown that some individual class members were not injured, class certification, nevertheless, is appropriate where the antitrust violation has caused widespread injury to the class.” *Id.*; see also *Presidio Golf Club of San Francisco, Inc. v. Nat’l Linen Supply Corp.*, No. C-71-431 SW, 1976 WL 1359, at \*5 (N.D. Cal. Dec. 30, 1976) (proof of a price fixing claim requires only “an illustration of generalized injury” not proof of an effect on every item sold or else sophisticated conspirators could create complex price fixing agreements with price differentials “to run afoul of the antitrust laws with impunity”).

Next, defendants’ offer a variety of objections they believe affect the overall reliability of the analysis, namely that: (i) fragility testing was not performed; (ii) data collection was delegated to third party; and (iii) the data used was not a random sample. The Court finds these objections without merit. None of them affects whether IPPs have offered a reasonable method for determining impact on a class-wide basis. Moreover, the suggestion that the experts should use a random sample rather than an analysis based upon all usable data is debatable in a litigation context, and in any event, not dispositive in terms of striking the opinion.

1           However, the Court finds other of defendants’ objections to be well-stated. The Court  
2 agrees that Dr. Leamer’s analysis relative to the issue of the pass-through rate is too abbreviated.  
3 While Dr. Leamer’s analysis thus far indicates that there is a statistically significant pass-through  
4 rate approaching 100% for the class, the Court is not persuaded that the analysis sufficiently  
5 captures the variety of different types of class members and product categories. Most glaringly,  
6 there is no analysis for packers in the IPP class since plaintiffs had not obtained data from any of  
7 the packers for the cylindrical batteries covered by the class definition. Plaintiffs only obtained  
8 data from a packer of prismatic LIBs, used in mobile phones and GPS devices, none of which are  
9 included in the class here or shown to be sufficient substitutes for the batteries and products  
10 included in the IPP class.

11           Further, the Court is not satisfied that plaintiffs or their experts have explained how the  
12 pass-through analysis here demonstrates the antitrust impact is “passed on” to each level of the  
13 indirect purchasers in the distribution chain. As the *SRAM* court indicated, indirect purchaser  
14 plaintiffs must find a “way to account for the decision-making of a variety of resellers and  
15 manufacturers in an intricate distribution chain” and must take into account the effect of the product  
16 at issue being but one component of an end product. *SRAM*, 264 F.R.D. at 613. For instance, Dr.  
17 Leamer acknowledged that bundling, rebates, and discounts would affect the accuracy of cost data,  
18 but apparently has offered no methodology to account for it in his analysis. Likewise, Dr. Leamer’s  
19 opinions, on reply, about focal point pricing and adjustments to quality rather than cost, were not  
20 adequately supported or explained in his pass-through analysis.

21           As a consequence, the Court finds the Leamer declarations insufficient to show that pass-  
22 through and damages can be established by expert analysis on a class-wide basis. Plaintiffs have  
23 suggested, at least with respect to some of these issues, that they may be able to make a more  
24 fulsome showing, and may bring a renewed motion if the available information permits them to  
25 cure the deficiencies identified. The motion to strike Dr. Leamer’s opinions is **GRANTED IN PART**  
26 to the extent defendants object to the lack of representativeness in the data used to conduct the  
27 analyses, but is otherwise denied. This ruling is without prejudice to IPPs revising the analysis to  
28 cure the defects identified.

2. *Choice of Law*

Although the motion may be denied without reaching the choice of law issues, the Court provides the following guidance to the parties, should plaintiffs elect to renew their motion.

Plaintiffs contend that purchasers of lithium ion battery products nationwide may bring claims under California’s Cartwright Act because: (1) defendants conducted conspiratorial activity in California; (2) defendants targeted their collusion at California; and (3) each defendant maintained substantial contacts with California by locating their headquarters in California, doing business in California, sending employees to California, and/or selecting California law to govern their lithium ion battery contracts.

In determining what law should apply, the Court must first look to whether the application of California law to plaintiffs’ claims violates due process. *Phillips Petroleum Co. v. Shutts*, 472 U.S. 797, 818 (1985). In *Phillips Petroleum*, the United States Supreme Court held that a forum state may apply its own substantive law to the claims of a nationwide class without violating the federal due process clause or full faith and credit clause if the state has a “significant contact or significant aggregation of contacts” to the claims of each class member such that application of the forum law is “not arbitrary or unfair.” *Id.* at 821–822.

Even where its own law may be constitutionally applied, California follows a three-step “governmental interest analysis” to determine whether conflicts of law exist, and to ascertain the most appropriate law applicable to the issues, in the absence of an effective choice-of-law agreement. *Washington Mut. Bank, FA v. Superior Court*, 24 Cal.4th 906, 919 (2001) (internal citations omitted). “Under the first step of the governmental interest approach, the foreign law proponent must identify the applicable rule of law in each potentially concerned state and must show it materially differs from the law of California.” *Id.* at 919-20. The mere fact that two or more states are involved does not indicate a conflict of laws problem absent a material difference. *Id.* If the court finds the laws materially different, it proceeds to the second step and determines what interest, if any, each state has in having its own law applied to the case. *Id.* at 920. Even if there are material differences, there is no choice of law problem if only one state has an interest in having its law applied. *Id.* Thus, the court may properly find California law applicable without

1 proceeding to the third step in the analysis if the foreign law proponent fails to identify any actual  
2 conflict or to establish the other state's interest in having its own law applied. *Id.* Only if the trial  
3 court determines that the laws are materially different *and* that each state has an interest in having  
4 its own law applied (*i.e.*, an actual conflict) must the court take the final step and select the law of  
5 the state whose interests would be "more impaired" if its law were not applied. *Id.* Under  
6 California law, a court must make this determination on a case-by-case basis, taking into account  
7 the circumstances of the particular case. *Kearney v. Salomon Smith Barney*, 39 Cal. 4th 95, 107-08  
8 (2006); *see also Bruno v. Eckhart*, 280 F.R.D. 540 (CD Cal. 2012) (post-*Mazza*).

9       Plaintiffs have the initial burden to establish "significant contact or significant aggregation  
10 of contacts to the claims asserted by each member of the plaintiff class . . . in order to ensure that  
11 the choice of . . . [forum] is not arbitrary or unfair." *Shutts*, 472 U.S. at 821-22. "To the extent a  
12 defendant's conspiratorial conduct is sufficiently connected to California, and is not 'slight and  
13 casual,' the application of California law to that conduct is 'neither arbitrary nor fundamentally  
14 unfair,' and the application of California law does not violate that defendant's rights under the Due  
15 Process Clause." *AT & T Mobility LLC v. AU Optronics Corp.*, 707 F.3d 1106, 1107 (9th Cir.  
16 2013) (citing *Allstate Ins. Co. v. Hague*, 449 U.S. 302, 312-13 (1981)). Application of California  
17 law is fair where "more than a *de minimis* amount of that defendant's alleged conspiratorial activity  
18 leading to the sale of price[-]fixed goods to plaintiffs took place in California." *Id.* at 1113.

19       Here, Plaintiffs offer evidence to indicate that, of the defendants remaining in the IPP  
20 litigation at the time of the motion, two (Samsung SDI America, Inc. and Sanyo North American  
21 Corp.) have principal places of business in California and eight are located outside the United  
22 States (and thus, have no expectation in the application of one state's laws over another). Three are  
23 headquartered in New Jersey. Plaintiffs also offer evidence of numerous meetings with,  
24 communications from, and actions by defendants' California-based employees regarding pricing  
25 and implementation of pricing directives. Many defendants' employees traveled to and conferred  
26 with one another at trade association meetings in California. Some defendants maintained offices  
27 in California and conducted business with California customers. Many are registered to do  
28 business in California and maintain an agent for service of process in California. And some

1 contracts for LIB with certain defendants (Panasonic, LG Chem, Sanyo, Sony, and Toshiba)  
2 included California choice of law provisions. (*See, e.g.*, Exhs. 55, 56, 57, 82, 100, 152, 174.)

3 Defendants contend that only the location of the purchase of the price-fixed goods is  
4 relevant to contacts for purposes of the due process analysis. However, *AT&T Mobility* held that  
5 “[t]he relevant transaction or occurrence in a price-fixing case involves both the conspiracy to  
6 illegally fix prices and the sale of price-fixed goods.” *AT&T Mobility*, 707 F.3d at 1113-14. The  
7 Court further held that a “place-of-purchase focus severely truncates the scope of anticompetitive  
8 conduct that the Act proscribes” and the “transaction or occurrence” includes. *Id.* at 1110.  
9 “Rightly understood then, the ‘transaction or occurrence’ proscribed by the Cartwright Act includes  
10 “the full extent of incipient conspiratorial conduct.” *Id.* at 1110. Indeed, in *AT&T Mobility*, no  
11 products were sold in California, but maintenance of offices, entrance into agreements, and  
12 participation in price-sharing information were sufficient to show that contacts were not “slight and  
13 casual” and satisfied due process. *Id.*

14 *Mazza*, cited by defendants, is not to the contrary. There, the Ninth Circuit found due  
15 process satisfied given the “constitutionally sufficient aggregation of contacts to the claims of each  
16 putative class member in this case because Honda’s corporate headquarters, the advertising agency  
17 that produced the allegedly fraudulent misrepresentations, and one fifth of the proposed class  
18 members [were] located in California.” *Mazza v. Am. Honda Motor Co.*, 666 F.3d 581, 590 (9th  
19 Cir. 2012). Proceeding to the three-part choice of law test under California law, the Ninth Circuit  
20 further held that defendant had met its burden to show California law should not apply since:  
21 material differences between California consumer protection law and the laws of the other states at  
22 issue existed; other states had interests in enforcing the level of liability their legislatures and courts  
23 had set; and California’s interests in applying its consumer protection laws were attenuated. Only  
24 then did the court find that each class member’s consumer protection claims should be governed by  
25 the consumer protection laws in which the transaction took place. Moreover, *Mazza* did not  
26 concern alleged violations of the Cartwright Act.

27 Here, on the three-factor test, plaintiffs concede the first two prongs—that the relevant law  
28 is different in New Jersey versus California, and that a “true conflict” exists—because New Jersey

law would not provide standing to indirect purchaser plaintiffs. *Sickles v. Cabot Corp.*, 379 N.J. Super. 100, 877 A.2d 267 (App. Div. 2005). (*See* Plaintiffs’ Reply at 25.) Thus, the dispute centers on the third prong of the test: which state’s interests would be more impaired by not having its law apply. Defendants contend that other states that have not repealed *Illinois Brick* to permit indirect purchaser standing have an interest in shielding resident businesses from excessive litigation, which would be impaired if the Cartwright Act were to be applied class-wide. Plaintiffs counter by citing to *AT&T Mobility*, which held that “[a]pplying California law to anticompetitive conduct undertaken within California advances the Cartwright Act’s ‘overarching goals of maximizing effective deterrence of antitrust violations, enforcing the state’s antitrust laws against those violations that do occur, and ensuring disgorgement of any ill-gotten proceeds.’” *AT&T Mobility*, 707 F.3d at 1112-13. “California courts, when determining whether a foreign jurisdiction’s stricter recovery rules should apply over California’s more liberal rule, have held that a jurisdiction’s only interest in having its damages limitation rules applied is to protect its resident defendants from excessive financial burdens or exaggerated claims . . . .” *Munguia v. Bekins Van Lines, LLC*, Nos. 1:11-cv-01134-LJO-SKO, 1:11-cv-01675- LJO-SKO, 2012 WL 5198480, at \*6-10 (E.D. Cal. Oct. 19, 2012) (collecting cases).

Plaintiffs contend that New Jersey’s interest in limiting the liability of the three New Jersey-based defendants is small. However, the Ninth Circuit has held that each non-California jurisdiction has an interest in “calibrat[ing] liability to foster commerce” and “shielding out-of-state business from what [they] may consider to be excessive litigation.” *Mazza*, 666 F.3d at 592-93. As other courts have found, given *Illinois Brick*’s express bar on indirect purchaser claims, and the failure of a state to repeal that bar, “it is too much of a stretch to employ California law as an end run around the limitations those states have elected to impose on standing” to protect its resident businesses. *In re Optical Disk Drive Antitrust Litig.*, 2016 WL 467444, at \*13 (N.D. Cal. Feb. 8, 2016).<sup>10</sup>

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<sup>10</sup> The Court notes that the nationwide IPP classes certified in this district have been for injunctive relief to the class, not damages. *See In re TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 583, 597 (N.D. Cal. 2010), *amended in part*, No. M 07-1827 SI, 2011 WL 3268649 (N.D. Cal. cont’d . . .)

Because the Court finds that the interests of *Illinois Brick* non-repealer states in precluding indirect purchaser claims would be impaired more significantly by applying the Cartwright Act than California's interests would be impaired by limiting its application to *Illinois Brick* repealer states, the Court finds that a nationwide class under the Cartwright Act would not be appropriate. However, as to the *Illinois Brick* repealer states, California's interests would prevail over less significant issues of whether a state follows some or all of the standing factors in *Associated General Contractors of California v. California State Council of Carpenters*, 459 U.S. 519 (1983), statute of limitations differences, and the like.<sup>11</sup> Any renewed motion for class certification should take this determination into account.

#### IV. DPP MOTION FOR CLASS CERTIFICATION

DPPs<sup>12</sup> assert a claim for violation of Section 1 of the Sherman Act on behalf of themselves and the proposed DPP Class. DPPs purchased allegedly price-fixed Lithium Ion Cells as components of LIBs or LIB Products. DPPs now move pursuant to Rules 23(a) and 23(b)(3) of the Federal Rules of Civil Procedure for certification of a class consisting of:

All persons and entities that purchased a cylindrical or prismatic Lithium Ion Battery Cell or a Lithium Ion Battery or Lithium Ion Battery Product containing a

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( . . . *cont'd*)

Cal. July 28, 2011); *In re Static Random Access memory (SRAM) Antitrust Litig.*, 264 F.R.D. 603, 610 (N.D. Cal. 2009).

<sup>11</sup> The Court understands the *Illinois Brick* repealer states relevant here to include: Arizona, California, Florida, Hawaii, Illinois, Kansas, Maine, Michigan, Minnesota, Nebraska, Nevada, New York, South Dakota, Tennessee, and Wisconsin; and possibly to also include: Alabama, Arkansas, District of Columbia, Iowa, Massachusetts, Mississippi, Missouri, New Hampshire, New Mexico, North Carolina, North Dakota, Oregon, Utah, Vermont, and West Virginia. (*cf.* Mot. 51:5-8; Oppo. at 46:15-18; Reply at 27:26-27 [fn. 100].) The Court makes no legal determination as to which are states are or are not repealer states, given that this issue is not material to resolution of the motion. The parties should clarify this list upon any renewed motion.

<sup>12</sup> DPP Plaintiffs and proposed class representatives are Automation Engineering LLC; Charles Carte; Alfred H. Siegel, acting solely in his capacity as the Liquidating Trustee of Circuit City Stores, Inc. Liquidating Trust; First Choice Marketing, Inc.; James O'Neil; Alfred T. Giuliano, as the Chapter 7 Trustee of Ritz Camera & Image, LLC; The Stereo Shop; Univisions-Crimson Holding, Inc.; and Terri Walner. Proposed class counsel are the law firms of: Saveri & Saveri, Inc.; Pearson, Simon & Warshaw, LLP; and Berman DeValerio.



cylindrical or prismatic<sup>13</sup> Lithium Ion Battery Cell from any Defendant, or any division, subsidiary or affiliate thereof, or any co-conspirator in the United States from May 1, 2002 through May 31, 2011. Excluded from the Class are Defendants, their parent companies, subsidiaries and affiliates, any Co-Conspirators, federal governmental entities and instrumentalities of the federal government, states and their subdivisions, agencies and instrumentalities, and any judge or jurors assigned to this case.

In their motion, DPPs define certain terms in the class definition: (1) “Lithium Ion Batteries” are batteries<sup>14</sup> that are rechargeable and use lithium ion technology; (2) “Lithium Ion Cells” are the main components of Lithium Ion Batteries; and (3) “Lithium Ion Products” are notebook (or netbook) computers, digital cameras, camcorders, cell phones, digital music players, power tools, personal digital assistants (“PDAs”), and mobile terminals sold by defendants that contain one or more Lithium Ion Cells. (Motion at 3:14-20.)

DPPs posit a shorter class period than IPPs, extending from May 1, 2002 through May 31, 2011, and characterized by four distinct periods of antitrust activity:

1. May 2002 through March 2007:

Actual collusion beginning about May 2002 and continuing through March 2007, as the Defendants began to meet regularly, and reached agreements to fix prices and restrict capacity.

2. April 2007 through September 2008:

The period for which LG Chem and Sanyo pled guilty—all manufacturers agreed to use the cost of cobalt, a major input of LIB, as a focal point for raising prices.

3. October 2008 through January 2010:

DPPs contend that defendants adjusted their strategies while the cost of cobalt declined, but continued to share information and agree on prices until Japanese regulators demanded that competitor firms cease contact with each other.

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<sup>13</sup> DPPs have not sought certification of claims concerning polymer LIBs used primarily in Apple iPhones, iPods, iPads, and notebook computers. (Kaschmitter Report at 34.) They did so because they believed the transactional data produced for polymer LIBs was insufficient to produce a reliable price model. (Noll Report ¶ 22.)

<sup>14</sup> DPPs use the terms “battery” and “pack” interchangeably. (See Motion at 3:16.)

1 4. February 2010 until May 2011:

2 Defendants alleged to have continued to conspire, but gradually grew more concerned about  
3 potential antitrust prosecution with less regular contacts, ending when the DOJ issued  
4 subpoenas to several defendants in May 2011.

5 As with the IPP certification motion, defendants here challenge predominance of common  
6 questions. Specifically, defendants dispute that DPPs have offered sufficient evidence that antitrust  
7 impact and damages can be proven on a class-wide basis. Defendants also raise questions about the  
8 typicality of certain class representatives.<sup>15</sup> The Court addresses each issue in turn.

9 **A. PREDOMINANCE**

10 DPPs' proffer regarding class-wide impact rests largely the expert report of Dr. Roger Noll,  
11 who provides statistical analysis, opinions about the structure of the industry, and a model for  
12 assessing the amount of damages. DPPs also offer the declaration of James L. Kaschmitter<sup>16</sup> to  
13 provide information on the LIB industry and characteristics of the products at issue.

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16 <sup>15</sup> Defendants also argue that class representatives who are bankruptcy trustees are not  
17 adequate because they may have a conflict of interest with unnamed class members. The Court  
18 sees no substantial basis for finding the bankruptcy trustees for Circuit City and Ritz Camera to be  
19 inadequate at this juncture. Moreover, the adequacy requirement normally would be satisfied so  
long as at least one of the class representatives is adequate. *Rodriguez v. West Publ'g Corp.*, 563  
F.3d 948, 961 (9th Cir. 2009). Defendants make no showing of any true conflict of interests.

20 <sup>16</sup> Defendants moved to strike portions of Kaschmitter's expert report as being based upon  
21 unverified material, particularly with respect to certain demonstrative figures in the report. DPPs  
22 counter that Kaschmitter is simply offered as an industry expert, not a scientific expert, and so his  
23 opinions are not subject to the exacting standards in *Daubert* and *Kumho Tire*. Because DPPs  
24 failed to disclose the source of some of Kaschmitter's industry information, the Court finds most of  
25 defendants' objections well taken. The motion to strike is **GRANTED IN PART AND DENIED IN**  
26 **PART**. The following portions of his report are stricken from consideration in connection with the  
27 class certification motion: Table 2, Figures 35-36 and 38-39, and the statements concerning the  
28 percentage of pack costs comprised of cell costs, as well as the statement characterizing data in  
Figures 38 and 39 as typical. More specifically, Kaschmitter's opinions that cell cost represents 2/3  
the materials' cost per pack is stricken from his report without prejudice to offering some reliable  
basis for that opinion in connection with further proceedings. However, based on his industry  
experience, his more general opinion that materials' costs predominate the cost of a pack,  
regardless of cell technology will be considered.

1 Defendants contend that Dr. Noll's opinions are impermissible because: (1) he cannot opine  
2 on whether collusion occurred; (2) he artificially divided the alleged time period to make it appear  
3 there is statistically significant impact; (3) his use of averaging masks the lack of impact to some  
4 class members; (4) he improperly relied on relative cost information in Mr. Kaschmitter's report;  
5 and (5) they lack actual cost data to support his impact opinions. The Court addresses each of these  
6 objections to Dr. Noll's report.

7 As to the first argument, Dr. Noll's statements about conditions conducive to collusion are,  
8 like Dr. Abrantes-Metz's statements, grounded in expertise about the economic theory concerning  
9 price-fixing conspiracies. Dr. Noll's economic expertise permits him to state a factual basis and  
10 offer opinions about whether such facts would indicate market conditions susceptible to collusive  
11 activity, and other indicators of collusion. *See In re Processed Egg Prods. Antitrust Litig.*, 81 F.  
12 Supp. 3d at 421-25; *U.S. Info. Systems*, 313 F. Supp. 2d at 236. Whether evidence of collusion is  
13 admitted at trial, and would ultimately support any opinion about indicators of collusion, is a  
14 separate question. Moreover, Dr. Noll outlines the communications and documents he reviewed  
15 relating to the alleged collusion to support his goal of "construct[ing] a regression model that would  
16 detect the anticompetitive effects of collusion only for firms, products, and time periods for which  
17 evidence of collusion exists." (Noll Reply Report ¶ 91.) Thus, the focus of Dr. Noll's report is his  
18 econometric analyses which show elevated prices corresponding to defendants' conduct, and which  
19 provide a means for demonstrating class-wide impact and estimating class-wide damages. Again,  
20 the manner in which testimony is allowed at trial is a separate question.

21 Second, the Court finds defendants' criticism of Dr. Noll use of sub-periods within the  
22 eleven-year class period, and the differences in the evidence concerning what communications and  
23 information exchanges were taking place unwarranted. Dr. Noll's models test whether the impact  
24 was constant throughout the class period, or if the identified sub-periods correspond with differing  
25 levels of price elevation. Dr. Noll relies on empirical evidence to support his hypothesis of  
26 significant price elevations coinciding with these real world events and time periods. As the court  
27 in the *Processed Egg Product* case stated, "it is consistent with sound economic practice to review  
28 the factual record and formulate a hypothesis that can then be tested using economic theory — the

1 examination of the factual record is necessary . . . to confirm that the stories drawn from the data  
2 and from the factual record are consistent.” *In re Processed Egg Products Antitrust Litig.*, 2015 WL  
3 337224, at \*11; *see also In re Blood Reagents Antitrust Litig.*, No. 09-2081, 2015 WL 6123211, at  
4 \*12 (E.D. Pa. Oct. 19, 2015) (declining to exclude expert damages model that assumed a  
5 conspiracy start date later than that alleged in initial complaint, citing *Processed Egg Products*).  
6 Dr. Noll’s effort to map the factual record of the case onto the empirical data from his calculations  
7 is not a reason to exclude his opinions.<sup>17</sup>

8 Third, defendants’ argument that average measures of impact might mask that certain class  
9 members had no overcharge while others did is not a reason to exclude Dr. Noll’s opinions. As  
10 stated above, in attempting to measure how anti-competitive conduct might have affected prices as  
11 compared to a hypothetical, “but-for” world, it is both reasonable and necessary to rely on a certain  
12 amount of averaging, and is not a reason to either exclude the opinion or to find that it prevents  
13 class certification. *See SRAM*, 264 F.R.D. at 614; *In re NASDAQ*, 169 F.R.D. at 523; *Presidio Golf*  
14 *Club*, 1976 WL 1359 at \*5.

15 Fourth, Dr. Noll’s reliance on Mr. Kaschmitter’s opinions about the relative cost of  
16 materials in a cell is not *per se* improper. Experts may rely on information from other experts. Dr.  
17 Noll did not rely on a specific percentage or ratio from Mr. Kaschmitter’s report as a basis of his  
18 regression model. Moreover, Mr. Kaschmitter’s reply declaration offered additional bases for his  
19 opinions about relative cost of materials in a cell and cells being the predominate cost of all packs.  
20 Again, the Court does not find this objection to be a basis for excluding Dr. Noll’s opinions.

21 Notwithstanding the foregoing, Dr. Noll’s analysis fails to provide a firm foundation for  
22 class certification because he was unable to complete an analysis based on the actual cost data for  
23 any products other than Toshiba laptops. Further, even in his analysis of the Toshiba products, the  
24 data was limited and required some extrapolation. The data for all other products was, by Dr.  
25 Noll’s own admission, insufficient to run an analysis as to any of the other products types covered

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26 <sup>17</sup> Defendant’s criticism that Drs. Noll and Leamer have taken different approaches to  
27 solving the same question does not in and of itself invalidate them. Such is the case in many  
28 industries, and economics is no exception.

1 by the class definition. (*See* Noll Decl. ¶¶ 100, 108, 147, 167.) While it is unclear where to lay the  
2 blame, the Court nevertheless cannot ignore the large gaps in the evidence supporting the ability to  
3 demonstrate impact and damages on a class-wide basis.

4       The inadequacy of the data to perform the required analyses spills over into other arguments  
5 made by defendants. For instance, defendants object to Dr. Noll's report on the grounds that his  
6 regressions combine and average LIB cells (the alleged price-fixed item) with LIB packs, and  
7 therefore fail to isolate the effects, if any, on cells. Therefore, defendants contend, the model does  
8 not fit the theory of liability. The reality is that cells are only used in finished products in packs,  
9 making a combination of the data appear to be reasonable. Moreover, Dr. Noll attempted to run  
10 regressions isolating cell and pack data from each other, and he found those regressions  
11 demonstrated statistically significant overcharges. (Noll Reply ¶¶ 190-93.) However, these  
12 analyses appear to suffer from the same problems of being based on incomplete, and admittedly  
13 insufficient data sets.

14       In summary, while the Court does not find Dr. Noll's methodology to be unreliable, it does  
15 find that Dr. Noll's analysis ultimately does not satisfy DPPs' burden under Rule 23(b)'s  
16 predominance requirement. Thus, the motion to strike Dr. Noll's report at this juncture is **DENIED**,  
17 but the report fails to support class certification. This finding is without prejudice to DPPs making  
18 a renewed motion based on a showing derived from additional data, or some other evidentiary basis  
19 upon which common questions predominate. As it stands, the analysis of the Toshiba laptops alone  
20 does not satisfy the Court that a showing of antitrust impact for that product can be extrapolated as  
21 a measure of impact for the rest of the Cells, Batteries and Finished Products in the class definition.

## 22       **B.       TYPICALITY**

23       In cases involving an alleged price-fixing conspiracy, a representative plaintiff's claim is  
24 generally typical of the unrepresented members even if plaintiff's purchase was through different  
25 procedures, for different quantities, or at different prices than those unrepresented members. *In re*  
26 *TFT-LCD (Flat Panel) Antitrust Litig.*, 267 F.R.D. 291, 300 (N.D. Cal. 2010) (abrogated on other  
27 grounds in *In re ATM Fee Antitrust Litig.*, 686 F.3d 741 (9th Cir. 2012)). Defendants contend that,  
28 because the DPP class would include individuals, small and large retailers, and OEMs, the claims

of the class members are not sufficiently typical of larger OEM or big box retailers to satisfy Rule 23(a).

Defendants rely heavily on the district court’s decision in *In re Graphics Processing Units Antitrust Litig.*, 253 F.R.D. 478 (N.D. Cal. 2008) (“*GPU*”). The district court in *GPU* discussed a variety of cases finding that differences in products and pricing within the class definition undercut class treatment, either as part of a commonality, typicality, or adequacy analysis, in antitrust direct purchaser class actions. *Id.* at 484-89. Common themes in the cases discussed were whether the named plaintiffs, often representing individual or smaller purchasers, could be expected to present claims typical of, or raising common questions in relation to, the claims of larger purchasers, such as original equipment manufacturers or large retailers. In surveying the decisions, the *GPU* court concluded that the “decisions indicate that evaluating the requirements for class certification in this context involves a particularized analysis of the specific industry and chain of distribution [and] . . . [f]actors favoring certification have been price lists and commodity products as opposed to individually negotiated deals and customized products.” *GPU*, 253 F.R.D. at 489. Examining those factors in the context of a class of purchasers of graphics chips and graphics cards, the *GPU* court found the differences between individual purchasers of graphics cards and OEMs purchasing graphics chips in bulk for production of laptops and other products to be too great. *Id.* at 489. The named plaintiffs purchased a single standardized graphics card at retail, whereas the unrepresented class members purchased enormous quantities of customized cards. *Id.* at 489. Importantly, however, in *GPU*, direct sales of graphics cards to individual consumers accounted for only 0.5% of defendants’ sales, while wholesale purchasers of chips and cards accounted for the remaining 99.5% of defendants’ business. *Id.* at 490.

Here, the class representatives include individual consumers, small- and medium-sized companies, and large retailers. The kind of extreme disconnect in the market share representation shown in *GPU* is not present. However, the class definition covers all purchasers of “a Lithium Ion Battery Cell or a Lithium Ion Battery or Lithium Ion Battery Product,” and plaintiffs’ representatives do not appear to include those who purchased only cells, nor is it clear that their expert analysis could account for impact on those who purchased cells, rather than “batteries” or

1 “products.” While the Court is inclined to find that the proposed class representatives here are  
2 typical of a class of purchasers of Lithium Ion Battery Products, whether they are typical of  
3 purchasers of cells or batteries is less certain. While this generally might not preclude a finding of  
4 typicality, where there is significant uncertainty about whether impact is common for Cells,  
5 Batteries, and Products, typicality of the representatives’ claims is necessarily uncertain as well.  
6 The Court leaves the ultimate determination of whether the class representatives’ claims meet the  
7 typicality requirement for any renewed class certification motion.<sup>18</sup>

8 As a consequence of the Court’s determinations that DPPs have not established typicality  
9 and predominance of common questions, DPPs motion for class certification is **DENIED**.

10 **V. CONCLUSION**

11 For the reasons stated herein, the Court **ORDERS** that:

12 1. The IPP Plaintiffs’ Motion for Class Certification (Dkt No. 1036) is **DENIED WITHOUT**  
13 **PREJUDICE** on the grounds that they have failed to establish typicality and their ability to prove  
14 antitrust impact on a class-wide basis;

15 2. The DPP Plaintiffs’ Motion for Class Certification (Dkt. No. 1582 is **DENIED WITHOUT**  
16 **PREJUDICE** on the grounds that they have failed to establish typicality, adequacy, and their ability  
17 to prove antitrust impact on a class-wide basis;

18 3. The Motion of Panasonic and Sanyo to Strike the Proposed Expert Testimony of Dr.  
19 Edward E. Leamer (Dkt. No. 1553) is **GRANTED IN PART** on the grounds that his analyses rely on  
20 too narrow a range of data;

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22  
23 <sup>18</sup> Defendants contend that the class contains members who lack standing or were not  
24 harmed because it includes purchasers of Packs or Finished Products that were preceded by sales to  
25 third-party battery-pack manufacturers or third-party original design manufacturers (“ODMs”),  
26 making them, essentially, indirect purchasers of the Packs of Finished Products. Defendants’  
27 argument turns on a determination of whether purchases from certain entities defendant-affiliated  
28 entities would meet the “ownership or control” exception to the *Illinois Brick* doctrine. There are  
factual issues not properly before the Court in this motion that must be resolved on the “ownership  
or control” question. Thus, the Court declines to reach this issue in the context of this class  
certification motion.

1           4. The Motion of Panasonic and Sanyo to Strike the Proposed Expert Testimony of Dr.  
2 Rosa M. Abrantes-Metz (Dkt. No. 1554) is **DENIED**;


3           5. The Motion of Toshiba to Strike Certain Testimony of DPP Expert Dr. Roger Noll (Dkt.  
4 No. 1565) is **DENIED** on the grounds stated in the motion;

5           6. The Motion of Toshiba to Strike Certain Proposed Testimony of DPP Expert Mr. James  
6 L. Kaschmitter (Dkt. No. 1569) is **GRANTED IN PART** as to Table 2, Figures 35-36 and 38-39, and  
7 the statements concerning the percentage of pack costs comprised of cell costs, as well as the  
8 statement characterizing data in Figures 38 and 39 as typical.

9           This Order terminates Docket Nos. 1036, 1553, 1554, 1565, 1569, and 1582.

10          **IT IS SO ORDERED.**

11  
12 Dated: April 12, 2017

  
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YVONNE GONZALEZ ROGERS  
UNITED STATES DISTRICT COURT JUDGE